



Silicon Carbide Nozzles

Product reference: silicon-carbide-nozzles

Material: Silicon Carbide

Product type: Ceramic Nozzle

Silicon carbide nozzles shape and direct abrasive or corrosive media while resisting wear at the flow passage and outlet. Typical duties include wet-FGD slurry spraying and abrasive blasting.

FGD spray-nozzle examples: define medium, solids, operating pressure, flow and required spray pattern. Illustrative product view.

Dense SiC Typical Properties

Property	SSiC - sintered	SiSiC / RBSiC - reaction bonded	Condition
Density (g/cm ³)	≥3.12	≥3.03	-
Apparent porosity (%)	<0.2	<0.2	-
Vickers hardness (HV0.5)	2100	2000	0.5 kgf test force
Young's modulus (GPa)	400	350	-
Fracture toughness (MPa·m ^{1/2})	4-5	2.5-3.5	-
Flexural strength (MPa)	≥400	≥350	25°C
Compressive strength (MPa)	≥2200	≥2000	25°C
Thermal conductivity (W/(m·K))	≥110	≥90	25°C
Mean linear thermal expansion coefficient (10 ⁻⁶ /K)	4.0	4.0	25-1000°C
Typical maximum material temperature (°C)	1650	1300	-

Product Geometry & Configuration

Product parameter	Configuration	Function
Nozzle family	Slurry/liquid spray nozzle or abrasive-blasting nozzle	Liquid distribution and abrasive acceleration require different geometries
Internal geometry	Spray passage, straight bore or venturi throat/outlet	Controls discharge pattern, flow and particle passage
Operating point	Flow at stated nozzle-inlet pressure and medium conditions	A flow value without pressure does not define nozzle performance
Connection	Thread, flange, holder or ceramic insert interface	Matches the pipework or blasting assembly
Delivery scope	Ceramic body/liner or specified complete assembly	Housing, seals and mounting parts are identified separately